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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,672	03/29/2004	Sebastian Huther	H01.2-11499US01	1410
490	7590	01/11/2005	EXAMINER	
VIDAS, ARRETT & STEINKRAUS, P.A. 6109 BLUE CIRCLE DRIVE SUITE 2000 MINNETONKA, MN 55343-9185			BURCH, MELODY M	
		ART UNIT		PAPER NUMBER
				3683

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/811,672	HUTHER ET AL.
	Examiner	Art Unit
	Melody M. Burch	3683

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 March 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-7 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 March 2004 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/24/04.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the driving wheel recited in line 2 of claim 1, the monitoring device recited in claim 4, the time delay member recited in claim 5, the travel direction sensor and/or load sensor recited in claim 6, and the lifting height sensor recited in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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2. The drawings are objected to because element 52 is described in the specification as output of the controller but is shown as output of the braking signal generator 22 instead of output of the controller 50, also it is unclear what the box with the backslash (shown next to element 48) is intended to represent. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in

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the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

4. The disclosure is objected to because of the following informalities: in line 10 of pg. 5 the phrase "a first a first" should be corrected; in lines 1-2 of pg. 6 the phrase "a second comparator device 36, the braking signal generator 22 compares" is unclear since element 36 is a separate entity from element 22.

Appropriate correction is required.

Claim Objections

5. Claim 4 is objected to because of the following informalities: the phrase "braking signal (20)" in the last two lines is objected to since element (20) in the drawings refers to the brake pedal. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 1. The phrase "the second braking device" in the last line of the claim lacks proper antecedent basis.

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Re: claims 3, 4, 6 and 7. The phrase "the brake control device" in lines 1-2 lack proper antecedent basis. Only "a control device" and "a braking control" were previously recited. Also the brake control device in claim 3 has the same number as the second conversion unit in claim 1. Clarification is required. A similar problem exists in claim 4 except that the brake control device has the same number as a brake control.

Re: claim 7. The phrase "said lifting height" in the last line of the claim lacks proper antecedent basis.

The remaining claims are indefinite due to their dependency from claim 1.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 3, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP-0908348 (EP'348) in view of US Patent 3289062 to Dannettell.

Re: claim 1. EP'348 shows in figures 1-3 the limitation of a braking system for battery powered industrial trucks comprising: a driving motor 6 which drives a driving wheel 10; a first braking device 36 associated with the driving wheel via intervening elements in the truck, a brake pedal 16 with which a braking signal generator 24 is associated to generate an electric braking signal corresponding to a first desired braking force in response to the excursion of the brake pedal as described in col. 4 lines 9-11, a control device 28 for the driving motor, a first conversion unit 40 in the control device

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which converts said braking signal into a desired torque for the driving motor, a second conversion unit 44,46 in the control device which converts the actual torque of the driving motor into an actual braking force, a comparator device 38 in a braking control in which the first desired braking force is compared to the actual braking force to form a second desired braking force for the second braking device 8.

EP'348 fails to include the limitation of the motor, specifically being a three-phase motor. Dannettell shows in figure 1 the use of a three phase motor 13 in an industrial truck. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the motor of EP'348 to have been a three phase motor, as taught by Dannettell, in order to provide a motor having lower locked rotor currents; higher starting torque; lower full load currents; and improved reliability due to the elimination of the starting capacitor required in a PSC motor circuit.

Re: claim 3. EP '348, as modified, teaches in paragraph [0036] of EP '348 the limitation of the brake control device generating a hard stop signal (or supplementary braking signal) for the first braking device 36 when the braking signal of the braking signal generator becomes a maximum (the maximum in this case is 50% of maximum depression).

Re: claim 6. See paragraph [0043] of EP'348 in which it is explained that a travel direction sensor varies the second desired braking force in dependence on the direction of travel.

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10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP-0908348 (EP'348) in view of US Patent 3289062 to Dannettell as applied to claim 1 above, and further in view of US Patent 5117163 to Sandberg.

EP'348, as modified, describes the invention substantially as set forth above including the limitation of a third conversion unit 42 provided which transforms the second desired braking force into a braking current as described in paragraph [0026], but does not include the limitation of a current regulator predetermining brake force in response to a current braking force characteristic.

Sandberg teaches in col. 5 lines 40-41 the limitation of a current regulator having an output based on predetermined characteristics.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of EP'348, as modified, to have included a current regulator, as taught by Sandberg, in order to provide a means of controlling the current output depending on particular braking conditions.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP-0908348 (EP'348) in view of US Patent 3289062 to Dannettell as applied to claim 1 above, and further in view of US Patent 6805415 to Isono et al.

Isono et al. teach in col. 26 lines 48-53 the limitation of generating a hard stop signal (or maximum braking for a first braking device (on rear wheel side) when a monitoring device (or unit which determines the disclosed failure condition) receives an error signal (or evidence of failure) with regard to a second braking device (on front wheel side).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of EP'348 to have included a monitoring device, as taught by Isono et al., in order to provide a means of compensating for the failure of one braking device by increasing the braking on the other braking device for improved vehicle safety.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP-0908348 (EP'348) in view of US Patent 3289062 to Dannettell as applied to claim 1 above, and further in view of JP-4117105 (JP'105).

EP'348 fails to include the limitation of providing a hard stop signal via a time delay member.

JP'105 teaches in lines 3-5 from the bottom of the constitution the limitation of providing a hard stop signal or emergency brake signal via a time delay member 10.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of EP'348 to have included a time delay member, as taught by JP'105 in order to provide a means of accurately controlling and having the capability to adjust when a hard stop braking will occur.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP-0908348 (EP'348) in view of US Patent 3289062 to Dannettell as applied to claim 1 above, and further in view of GB-2293364 (GB'364).

EP'348 fails to include the limitation of a lifting height sensor.

GB'364 teaches in the abstract the use of a brake system for an industrial truck

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including a height sensor 6 and having the braking force varied in dependence of the lifting height as taught in lines 1-2 of the abstract.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system to have included a lift height sensor, in view of the teachings of GB'364, in order to provide a means of controlling braking torque as a function of the elevation height of the forks for providing smooth retardation of the vehicle.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 6427110 to Manken et al. teach the use of brake system for an industrial truck and US Patent 6208926 to Wagner et al. teach the use of a similar brake system control scheme including the comparison of actual and nominal or desired force values.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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January 6, 2005

Melody M. Bruch

1/6/05